

CLAIMS

What is claimed is:

1. A method of measuring an extent of misalignment between first and second layers of an integrated circuit, the method comprising:
 - a. patterning first and second circuit features in the first layer;
 - b. patterning a third circuit feature in the second layer, the third circuit feature designed to extend over the first circuit feature to create a first overlap area, wherein the first overlap area is a first intended overlap should the first and second layers be perfectly aligned in one dimension parallel to the layers, and wherein the first overlap area increases with misalignment in a positive direction along the dimension and decreases with misalignment in a negative direction along the dimension;
 - c. patterning a fourth circuit feature in the second layer, the fourth circuit feature designed to extend over the first circuit feature to create a second overlap area, wherein the second overlap area is a second intended overlap should the first and second layers be perfectly aligned in the one dimension, and wherein the second overlap area decreases with misalignment in the positive direction and increases with misalignment in the negative direction;
 - d. measuring a first resistance through the first overlap areas; and
 - e. measuring a second resistance through the second overlap area.
2. The method of claim 1, wherein the first and second intended overlaps are equal.

3. The method of claim 1, further comprising:
 - a. patterning the first and second layers to create a first plurality of additional overlap areas each having a unique intended overlap, wherein each of the first plurality of additional overlap areas increases with misalignment in the positive direction and decreases with misalignment in the negative direction;
 - b. patterning the first and second layers to create a second plurality of additional overlap areas each having an intended overlap equal to the intended overlap from one of the first plurality of additional overlap areas, wherein each of the second plurality of additional overlap areas decreases with misalignment in the positive direction and increases with misalignment in the negative direction.
4. The method of claim 3, further comprising measuring the resistances of each of the first and second pluralities of additional overlap areas.
5. The method of claim 4, further comprising identifying a third overlap area selected from among the first and second pluralities of additional overlap areas, the third overlap area exhibiting a third resistance equal to the first resistance.
6. The method of claim 5, further comprising subtracting the first intended overlap from the intended overlap of the third overlap area.
7. The method of claim 5, wherein the extent of misalignment is one half the difference between the first intended overlap and the intended overlap of the third overlap area.